



## SEQUENCE LISTING

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<120> BI-FUNCTIONAL CANCER TREATMENT AGENTS

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<160> 35

<170> PatentIn Ver. 3.3

<210> 1

<211> 227

<212> PRT

<213> Homo sapiens

<400> 1

Met Asn Ile Lys Gly Ser Pro Trp Lys Gly Ser Leu Leu Leu Leu Leu  
1 5 10 15

Val Ser Asn Leu Leu Leu Cys Gln Ser Val Ala Pro Leu Pro Ile Cys  
20 25 30

Pro Gly Gly Ala Ala Arg Cys Gln Val Thr Leu Arg Asp Leu Phe Asp  
35 40 45

Arg Ala Val Val Leu Ser His Tyr Ile His Asn Leu Ser Ser Glu Met  
50 55 60

Phe Ser Glu Phe Asp Lys Arg Tyr Thr His Gly Arg Gly Phe Ile Thr  
65 70 75 80

Lys Ala Ile Asn Ser Cys His Thr Ser Ser Leu Ala Thr Pro Glu Asp  
85 90 95

Lys Glu Gln Ala Gln Gln Met Asn Gln Lys Asp Phe Leu Ser Leu Ile  
100 105 110

Val Ser Ile Leu Arg Ser Trp Asn Glu Pro Leu Tyr His Leu Val Thr  
115 120 125

Glu Val Arg Gly Met Gln Glu Ala Pro Glu Ala Ile Leu Ser Lys Ala  
130 135 140

Val Glu Ile Glu Glu Gln Thr Lys Arg Leu Leu Glu Gly Met Glu Leu  
145 150 155 160

Ile Val Ser Gln Val His Pro Glu Thr Lys Glu Asn Glu Ile Tyr Pro  
165 170 175

Val Trp Ser Gly Leu Pro Ser Leu Gln Met Ala Asp Glu Glu Ser Arg  
 180 185 190

Leu Ser Ala Tyr Tyr Asn Leu Leu His Cys Leu Arg Arg Asp Ser His  
 195 200 205

Lys Ile Asp Asn Tyr Leu Lys Leu Leu Lys Cys Arg Ile Ile His Asn  
 210 215 220

Asn Asn Cys  
 225

<210> 2  
 <211> 21  
 <212> PRT  
 <213> Homo sapiens

<400> 2  
 Ile Glu Glu Gln Thr Lys Arg Leu Leu Arg Gly Met Glu Leu Ile Val  
 1 5 10 15

Ser Gln Val His Pro  
 20

<210> 3  
 <211> 21  
 <212> PRT  
 <213> Rattus sp.

<400> 3  
 Ile Glu Glu Gln Asn Lys Arg Leu Leu Glu Gly Ile Glu Lys Ile Ile  
 1 5 10 15

Gly Gln Ala Tyr Pro  
 20

<210> 4  
 <211> 21  
 <212> PRT  
 <213> Mus sp.

<400> 4  
 Ile Glu Glu Gln Asn Lys Gln Leu Leu Glu Gly Val Glu Lys Ile Ile  
 1 5 10 15

Ser Gln Ala Tyr Pro  
 20

<210> 5  
 <211> 21  
 <212> PRT  
 <213> Cricetus sp.

&lt;400&gt; 5

Ile	Gly	Glu	Gln	Asn	Lys	Arg	Leu	Leu	Glu	Gly	Ile	Glu	Lys	Ile	Leu
1				5					10					15	

Gly	Gln	Ala	Tyr	Pro
			20	

&lt;210&gt; 6

&lt;211&gt; 21

&lt;212&gt; PRT

&lt;213&gt; Cetacea sp.

&lt;400&gt; 6

Glu	Glu	Glu	Glu	Asn	Lys	Arg	Leu	Leu	Glu	Gly	Met	Glu	Lys	Ile	Val
1				5					10					15	

Gly	Gln	Val	His	Pro
			20	

&lt;210&gt; 7

&lt;211&gt; 21

&lt;212&gt; PRT

&lt;213&gt; Mustela sp.

&lt;400&gt; 7

Ile	Glu	Glu	Glu	Asn	Arg	Arg	Leu	Leu	Glu	Gly	Met	Glu	Lys	Ile	Val
1				5					10					15	

Gly	Gln	Val	His	Pro
			20	

&lt;210&gt; 8

&lt;211&gt; 21

&lt;212&gt; PRT

&lt;213&gt; Bos sp.

&lt;400&gt; 8

Ile	Glu	Glu	Gln	Asn	Lys	Arg	Leu	Ile	Glu	Gly	Met	Glu	Met	Ile	Phe
1				5					10					15	

Gly	Gln	Val	Ile	Pro
			20	

&lt;210&gt; 9

&lt;211&gt; 21

&lt;212&gt; PRT

&lt;213&gt; Ovis sp.

&lt;400&gt; 9

Glu	Glu	Glu	Glu	Asn	Lys	Arg	Leu	Leu	Glu	Gly	Met	Glu	Asn	Ile	Phe
1				5					10					15	

Gly	Gln	Val	Ile	Pro
			20	

<210> 10  
 <211> 21  
 <212> PRT  
 <213> Porcine sp.

<400> 10  
 Ile Glu Glu Gln Asn Lys Arg Leu Leu Glu Gly Met Glu Lys Ile Val  
           1                  5                  10                  15  
 Gly Gln Val His Pro  
                   20

<210> 11  
 <211> 21  
 <212> PRT  
 <213> Camelus sp.

<400> 11  
 Ile Glu Glu Gln Asn Lys Arg Leu Leu Glu Gly Met Glu Lys Ile Val  
           1                  5                  10                  15  
 Gly Gln Val His Pro  
                   20

<210> 12  
 <211> 21  
 <212> PRT  
 <213> Equus caballus

<400> 12  
 Glu Ile Glu Gln Asn Arg Arg Leu Leu Glu Gly Met Glu Lys Ile Val  
           1                  5                  10                  15  
 Gly Gln Val Gln Pro  
                   20

<210> 13  
 <211> 21  
 <212> PRT  
 <213> Elefantus sp.

<400> 13  
 Val Lys Glu Glu Asn Gln Arg Leu Leu Glu Gly Ile Glu Lys Ile Val  
           1                  5                  10                  15  
 Asp Gln Val His Pro  
                   20

<210> 14  
 <211> 21  
 <212> PRT  
 <213> Unknown Organism

<220>

<223> Description of Unknown Organism: Ancestral mammal

<400> 14

Ile Glu Glu Glu Asn Lys Arg Leu Leu Glu Gly Met Glu Lys Ile Val  
1 5 10 15

Gly Gln Val His Pro  
20

<210> 15

<211> 21

<212> PRT

<213> Gallus sp.

<400> 15

Ile Glu Glu Gln Asn Lys Arg Leu Leu Glu Gly Met Glu Lys Ile Val  
1 5 10 15

Gly Arg Val His Ser  
20

<210> 16

<211> 21

<212> PRT

<213> Meleagris gallopavo

<400> 16

Ile Glu Glu Gln Asp Lys Arg Leu Leu Glu Gly Met Glu Lys Ile Val  
1 5 10 15

Gly Arg Ile His Ser  
20

<210> 17

<211> 21

<212> PRT

<213> Turtur sp.

<400> 17

Ile Glu Glu Gln Asn Lys Arg Leu Leu Glu Gly Met Glu Lys Ile Val  
1 5 10 15

Gly Gln Val His Pro  
20

<210> 18

<211> 21

<212> PRT

<213> Crocodilus sp.

&lt;400&gt; 18

Ile Glu Glu Gln Asn Lys Arg Leu Leu Glu Gly Met Glu Lys Ile Ile  
 1 5 10 15

Gly Arg Val Gln Pro  
 20

&lt;210&gt; 19

&lt;211&gt; 21

&lt;212&gt; PRT

&lt;213&gt; Lacerta sp.

&lt;400&gt; 19

Ile Glu Glu Gln Asn Lys Arg Leu Leu Glu Gly Met Glu Lys Val Ile  
 1 5 10 15

Gly Arg Val Gln Pro  
 20

&lt;210&gt; 20

&lt;211&gt; 21

&lt;212&gt; PRT

&lt;213&gt; Unknown Organism

&lt;220&gt;

&lt;223&gt; Description of Unknown Organism: Ancestral amniote

&lt;400&gt; 20

Ile Glu Glu Gln Asn Lys Arg Leu Leu Glu Gly Met Glu Lys Ile Val  
 1 5 10 15

Gly Gln Val His Pro  
 20

&lt;210&gt; 21

&lt;211&gt; 21

&lt;212&gt; PRT

&lt;213&gt; Xenopus sp.

&lt;400&gt; 21

Val Glu Glu Gln Asn Lys Arg Leu Leu Glu Gly Met Glu Lys Ile Val  
 1 5 10 15

Gly Arg Ile His Pro  
 20

&lt;210&gt; 22

&lt;211&gt; 21

&lt;212&gt; PRT

&lt;213&gt; Rana catesbeiana

&lt;400&gt; 22

Val Glu Glu Gln Thr Lys Arg Leu Leu Glu Gly Met Glu Arg Ile Ile  
 1 5 10 15

Gly Arg Ile Gln Pro  
20

<210> 23  
<211> 21  
<212> PRT  
<213> Dipnoi sp.

<400> 23  
Val Glu Asp Gln Thr Lys Gln Leu Ile Glu Gly Met Glu Lys Ile Leu  
1 5 10 15

Ser Arg Met His Pro  
20

<210> 24  
<211> 21  
<212> PRT  
<213> Unknown Organism

<220>  
<223> Description of Unknown Organism: Tilapia

<400> 24  
Met Gln Gln Tyr Ser Lys Ser Leu Lys Asp Gly Leu Asp Val Leu Ser  
1 5 10 15

Ser Lys Met Gly Ser  
20

<210> 25  
<211> 21  
<212> PRT  
<213> Unknown Organism

<220>  
<223> Description of Unknown Organism: Tilapia

<400> 25  
Met Gln Glu His Ser Lys Asp Leu Lys Asp Gly Leu Asp Ile Leu Ser  
1 5 10 15

Ser Lys Met Gly Pro  
20

<210> 26  
<211> 21  
<212> PRT  
<213> Cyprinus carpio

<400> 26  
Leu Gln Glu Asn Ile Asn Ser Leu Gly Ala Gly Leu Glu His Val Phe  
1 5 10 15

Asn Lys Met Asp Ser  
20

<210> 27  
<211> 21  
<212> PRT  
<213> *Cyprinus carpio*

<400> 27  
Leu Gln Asp Asn Ile Asn Ser Leu Gly Ala Gly Leu Glu Arg Val Val  
1 5 10 15

His Lys Met Gly Ser  
20

<210> 28  
<211> 21  
<212> PRT  
<213> *Cyprinus carpio*

<400> 28  
Leu Gln Asp Asn Ile Asn Ser Leu Val Pro Gly Leu Glu His Val Val  
1 5 10 15

His Lys Met Gly Ser  
20

<210> 29  
<211> 21  
<212> PRT  
<213> *Salmonis sp.*

<400> 29  
Leu Gln Asp Tyr Ser Lys Ser Leu Gly Asp Gly Leu Asp Ile Met Val  
1 5 10 15

Asn Lys Met Gly Pro  
20

<210> 30  
<211> 21  
<212> PRT  
<213> *Oncorhynchus tshawytscha*

<400> 30  
Leu Gln Asp Tyr Ser Lys Ser Leu Gly Asp Gly Leu Asp Ile Met Val  
1 5 10 15

Asn Lys Met Gly Pro  
20



<210> 31  
 <211> 21  
 <212> PRT  
 <213> Tructa sp.

<400> 31  
 Leu Gln Asp Tyr Ser Lys Ser Leu Gly Asp Gly Leu Asp Ile Met Val  
           1                  5                  10                  15  
 Asn Lys Met Gly Pro  
                   20

<210> 32  
 <211> 22  
 <212> PRT  
 <213> Homo sapiens

<400> 32  
 Val Tyr Asp Leu Leu Lys Asp Leu Glu Glu Gly Ile Gln Thr Leu Met  
           1                  5                  10                  15  
 Arg Glu Leu Glu Asp Gly  
                   20

<210> 33  
 <211> 22  
 <212> PRT  
 <213> Bovine sp.

<400> 33  
 Val Tyr Glu Lys Leu Lys Asp Leu Glu Glu Gly Ile Leu Ala Leu Met  
           1                  5                  10                  15  
 Arg Glu Leu Glu Asp Gly  
                   20

<210> 34  
 <211> 199  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
           amino acid sequence

<400> 34  
 Leu Pro Ile Cys Pro Gly Gly Ala Ala Arg Cys Gln Val Thr Leu Arg  
           1                  5                  10                  15  
 Asp Leu Phe Asp Arg Ala Val Val Leu Ser His Tyr Ile His Asn Leu  
                   20                  25                  30  
 Ser Ser Glu Met Phe Ser Glu Phe Asp Lys Arg Tyr Thr His Gly Arg  
           35                  40                  45

Gly Phe Ile Thr Lys Ala Ile Asn Ser Cys His Thr Ser Ser Leu Ala  
 50 55 60  
 Thr Pro Glu Asp Lys Glu Gln Ala Gln Gln Met Asn Gln Lys Asp Phe  
 65 70 75 80  
 Leu Ser Leu Ile Val Ser Ile Leu Arg Ser Trp Asn Glu Pro Leu Tyr  
 85 90 95  
 His Leu Val Thr Glu Val Arg Gly Met Gln Glu Ala Pro Glu Ala Ile  
 100 105 110  
 Leu Ser Lys Ala Val Glu Ile Glu Glu Gln Thr Lys Arg Leu Leu Glu  
 115 120 125  
 Arg Met Glu Leu Ile Val Ser Gln Val His Pro Glu Thr Lys Glu Asn  
 130 135 140  
 Glu Ile Tyr Pro Val Trp Ser Gly Leu Pro Ser Leu Gln Met Ala Asp  
 145 150 155 160  
 Glu Glu Ser Arg Leu Ser Ala Tyr Tyr Asn Leu Leu His Cys Leu Arg  
 165 170 175  
 Arg Asp Ser His Lys Ile Asp Asn Tyr Leu Lys Leu Leu Lys Cys Arg  
 180 185 190  
 Ile Ile His Asn Asn Asn Cys  
 195

<210> 35  
 <211> 199  
 <212> PRT  
 <213> Homo sapiens

<400> 35  
 Leu Pro Ile Cys Pro Gly Gly Ala Ala Arg Cys Gln Val Thr Leu Arg  
 1 5 10 15  
 Asp Leu Phe Asp Arg Ala Val Val Leu Ser His Tyr Ile His Asn Leu  
 20 25 30  
 Ser Ser Glu Met Phe Ser Glu Phe Asp Lys Arg Tyr Thr His Gly Arg  
 35 40 45  
 Gly Phe Ile Thr Lys Ala Ile Asn Ser Cys His Thr Ser Ser Leu Ala  
 50 55 60  
 Thr Pro Glu Asp Lys Glu Gln Ala Gln Gln Met Asn Gln Lys Asp Phe  
 65 70 75 80  
 Leu Ser Leu Ile Val Ser Ile Leu Arg Ser Trp Asn Glu Pro Leu Tyr  
 85 90 95

His Leu Val Thr Glu Val Arg Gly Met Gln Glu Ala Pro Glu Ala Ile  
100 105 110

Leu Ser Lys Ala Val Glu Ile Glu Glu Gln Thr Lys Arg Leu Leu Glu  
115 120 125

Gly Met Glu Leu Ile Val Ser Gln Val His Pro Glu Thr Lys Glu Asn  
130 135 140

Glu Ile Tyr Pro Val Trp Ser Gly Leu Pro Ser Leu Gln Met Ala Asp  
145 150 155 160

Glu Glu Ser Arg Leu Ser Ala Tyr Tyr Asn Leu Leu His Cys Leu Arg  
165 170 175

Arg Asp Ser His Lys Ile Asp Asn Tyr Leu Lys Leu Leu Lys Cys Arg  
 180 185 190

Ile Ile His Asn Asn Asn Cys  
195